

REVIEW ASSIGNMENT (UNIT 1 Part A)

Name: _____

Period: _____

Due: Oct.12

SECTION 3.1

1. Write the prime factorization of 264.
2. Determine the greatest common factor of 126 and 144, using prime factorization.
3. Determine the least common multiple of 28 and 42, using prime factorization.

SECTION 3.2

4. Determine the square root of 1764, using prime factorization (no calculator).
5. A cube has volume 12 167 cubic feet. What is the surface area of the cube? (no calculator)

SECTION 4.1

6. Estimate the value of $\sqrt[3]{100}$. Use benchmarks and a number line.

SECTION 4.2

7. Tell whether each number is rational or irrational. Explain how you know. a) $\sqrt{\frac{49}{16}}$ b) $\sqrt[3]{-30}$ c) 1.21

SECTION 4.3

8. Simplify each radical. a) $\sqrt{63}$ b) $\sqrt[3]{108}$
9. Write each mixed radical as an entire radical. a) $7\sqrt{3}$ b) $2\sqrt[3]{4}$

SECTION 4.4

10. Write each as a radical and evaluate. a) $(-8)^{\frac{1}{3}}$ b) $(-27)^{\frac{4}{3}}$ c) $100^{0.5}$
11. Use the formula $b = 0.01m^{\frac{2}{3}}$ to estimate the brain mass of each animal.
a) a moose with a body mass of 512 kg
b) a cat with a body mass of 5 kg

SECTION 4.5

12. Write as a positive power and evaluate each power. a) 7^{-2} b) $16^{-\frac{5}{4}}$ c) $\left(\frac{25}{36}\right)^{\frac{1}{2}}$

SECTION 4.6

13. Simplify by writing as a single power. Explain your reasoning.

a) $0.8^2 \cdot 0.8^{-7}$ b) $\frac{(1.5^{-3})^{-5}}{1.5^5}$ c) $\frac{9^{\frac{5}{4}} \cdot 9^{-\frac{1}{4}}}{9^{\frac{3}{4}}}$

14. Simplify.

a) $m^4 n^{-2} \cdot m^2 n^3$ b) $\frac{6x^4 y^{-3}}{14xy^2}$ c) $(25a^4 b^2)^{\frac{3}{2}}$ d) $\left(\frac{50x^2 y^4}{2x^4 y^7}\right)^{\frac{1}{2}}$